

(19) **United States**(12) **Patent Application Publication**
Johnson et al.(10) **Pub. No.: US 2008/0203016 A1**(43) **Pub. Date: Aug. 28, 2008**(54) **CLEANING IN MEMBRANE FILTRATION
SYSTEMS**

(86) PCT No.: PCT/US05/01919

§ 371 (c)(1),

(2), (4) Date: Jun. 21, 2007

(75) Inventors: **Warren Thomas Johnson**, New
South Wales (AU); **Thomas**
William Beck, New South Wales
(AU); **Rebecca Yeo**, Beijing (CN)(30) **Foreign Application Priority Data**

Dec. 24, 2004 (AU) 2004907391

Correspondence Address:

SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPARTMENT
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830 (US)**Publication Classification**(51) **Int. Cl.**
B01D 65/02 (2006.01)(52) **U.S. Cl.** 210/636(57) **ABSTRACT**(73) Assignee: **SIEMENS WATER**
TECHNOLOGIES CORP.,
LOWELL, MASSACHUSETTS,
MA (US)

(21) Appl. No.: 11/722,411

(22) PCT Filed: Jan. 21, 2005

A projectile of non-lethal composition includes an outer casing that is substantially sealed prior to impact with a target both when the projectile is in a static condition and when the projectile is in a dynamic condition. A marking material is encapsulated within the outer casing prior to impact. The outer casing is configured to deform and unseal upon impact such that the marking material disperses forward via hydraulic action.

